



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303

June 14, 2013

Black & Veatch
Mr. John Jenkins
1120 Sanctuary Parkway
Suite 200
Alpharetta, Georgia 30009

SITE: Barite Hill / Nevada Goldfields
CERCLIS ID: SCN000407714

RE: Designation of Multiple Operable Units (OUs) at the Barite Hill / Nevada Goldfields Site.

The U.S. Environmental Protection Agency (EPA) has received and reviewed email correspondence dated May 16 and May 30, 2013, regarding the designation of multiple Operable Units (OUs) at the Barite Hill / Nevada Goldfields site (Site). The EPA agrees with the following suggested OU designations (as outlined below) and requests that ongoing and future Remedial Investigation (RI) activities be scheduled and conducted on the OUs simultaneously. The EPA understands the objective of separating the Site into multiple OUs will result in Decision Documents being finalized more rapidly.

Please contact me with any questions.

Sincerely,

Candice Teichert
Remedial Project Manager
EPA, Region 4

OU	Description
OU-1	Barite Pit Lake System – includes surface water of the pit lake; surface runoff to the pit lake from highwalls and surface controls on the waste rock dump; ground water inflow to the pit lake from the waste rock dump and other up-gradient areas; ground water outflow from the lake to down-gradient areas; sediment contained within the pit lake; and the waste rock dump on the south side of the lake including the cap placed over this material.
OU-2	Ground Water – includes all ground water not within OU-1 that may be present in bedrock, overburden, or fill material excluding above-ground waste dumps and leach pads.
OU-3	North Tributary to Hawe Creek – includes surface water and sediment in the north tributary to Hawe Creek from its headwaters downstream to its confluence with Hawe Creek, including perennial and intermittent drainages feeding to the tributary.
OU-4	Hawe Creek and the Southwest Hawe Creek Tributary – includes surface water and sediment in the southwest tributary to Hawe Creek from its headwaters downstream to its confluence with Hawe Creek, including perennial and intermittent drainages feeding to the tributary and surface water and sediment in Hawe Creek from the North tributary confluence downstream to its mouth
OU-5	General Barite Hill Mine Site – includes all areas and media not within OU-1 through 4: the permanent leach pad and its associated process ponds, including the spent ore within it and the cap covering it; the reusable leach pad and its associated process ponds; the former processing facilities area including the refinery, laboratory, water treatment plant, carbon plant, crusher/agglomerator area, and maintenance and storage facilities; waste disposal area C including the spent ore within it, cap covering it, and leachate and surface water drainage systems; waste disposal area A including the waste rock within it, cap covering it, and surface water drainage systems; the former Rainsford pit and the backfill contained within it and cap covering it; Dam A; the former office area; and other site areas not described above

Designation of Operable Units to consider/discuss for Barite Hill Nevada Goldfields Mine, McCormick County, SC

Site Wide CAMU (Corrective Action Management Unit) – Investigate the advantages of designating the site a CAMU with OUs within to provide flexibility in waste and material handling between each OU. <http://www.epa.gov/osw/hazard/correctiveaction/resources/guidance/acamur.htm>

- OU-1 Barite Pit Lake System – includes surface water of the pit lake; surface runoff to the pit lake from highwalls and surface controls on the waste rock dump; ground water inflow to the pit lake from the waste rock dump and other up-gradient areas; ground water outflow from the lake to down-gradient areas; sediment contained within the pit lake; and the waste rock dump on the south side of the lake including the cap placed over this material.
- OU-2 Ground Water – includes all ground water not within OU-1 that may be present in bedrock, overburden, or fill material excluding above-ground waste dumps and leach pads.
- OU-3 North Tributary to Hawe Creek – includes surface water and sediment in the north tributary to Hawe Creek from its headwaters downstream to its confluence with Hawe Creek, including perennial and intermittent drainages feeding to the tributary.
- OU-4 Hawe Creek and the Southwest Hawe Creek Tributary – includes surface water and sediment in the north tributary to Hawe Creek from its headwaters downstream to its confluence with the southwest tributary, including perennial and intermittent drainages feeding to the tributary and surface water and sediment in Hawe Creek from the North tributary confluence downstream to its mouth.
- OU-5 General Barite Hill Mine Site – includes all areas and media not within OU-1 through 4: the permanent leach pad and its associated process ponds, including the spent ore within it and the cap covering it; the reusable leach pad and its associated process ponds; the former processing facilities area including the refinery, laboratory, water treatment plant, carbon plant, crusher/agglomerator area, and maintenance and storage facilities; waste disposal area C including the spent ore within it, cap covering it, and leachate and surface water drainage systems; waste disposal area A including the waste rock within it, cap covering it, and surface water drainage systems; the former Rainsford pit and the backfill contained within it and cap covering it; Dam A; the former office area; and other site areas not described above.

Barite Hill Site McCormick, South Carolina				
OU	Description	Data Available	Data needed to complete RI/FS/ROD	Existing data needed from others
OU-1	Barite Pit Lake System – includes surface water of the pit lake; surface runoff to the pit lake from highwalls and surface controls on the waste rock dump; ground water inflow to the pit lake from the waste rock dump and other up-gradient areas; ground water outflow from the lake to down-gradient areas; sediment contained within the pit lake; and the waste rock dump on the south side of the lake including the cap placed over this material.	<p>Pit lake monitoring data 11-1-10 through 1-12-12 (pending through current if we get data access via INL or OneRain).</p> <p>Pit lake soundings & graphs and some seep data from various months from Nov 2008 April 2013.</p> <p>Pit lake water chemistry various months from Oct 2007 through Sept 2012.</p> <p>Historical data from groundwater wells BH55 & BH56. Five qtrrs sampling of these two wells and BH26-BH29. One round data from wells BH64, BH65, & BH66.</p> <p>INL monitoring well data prior to 1-12-12.</p>	<p>Continue pit lake monitoring for one full year.</p> <p>Current Work Plan calls for additional WQ samples of pit lake in August and December 2013.</p> <p>Storm runoff samples from the pit highwall -- at least 2 locations on two separate storms, one of which follows prolonged dry spell.</p> <p>Additional measurements of fracture orientation and description in pit walls (included in original work plan).</p> <p>Improved measurements of lake water elevation (monthly).</p> <p>Additional measurements of water table elevations.</p> <p>New lake bathymetry data.</p> <p>Measurements of runoff discharge quality and quantity thru waste rock dump diversions installed by Removal.</p>	<p>Apparently START (OTIE) is collecting quarterly samples from pit lake until ??</p> <p>INL's interpretation of Resistivity Array data coupled with data from the 4 START wells.</p>
OU-2	Ground Water – includes all ground water not within OU-1 that may be present in bedrock, overburden, or fill material excluding above-ground waste dumps and leach pads.	<p>5 rounds of GW data from 27 wells and one round from 7 new wells.</p> <p>Some historical well data and well logs from Nevada Goldfields.</p>	<p>Additional measurements of water table elevations.</p> <p>Potentially additional wells in the Rainsford pit area.</p> <p>Potentially may need additional wells for water table control: one in area of BH-62 which has been dry during all measurements; one on access road between Waste Area C and Permanent leach pad; one on SW side of rinse pond at permanent leach pad for water table and quality.</p> <p>A wet weather seep is present in the ephemeral drainage east of the pit. Survey of this seep elevation would provide elevation control for GW table in this area.</p> <p>Measurements of fracture trends and character on pavements in the Rainsford pit area to provide insight into GW controls in this area.</p>	<p>None - Maybe results of USGS downhole info on wells near the main pit.</p>
OU-3	North Tributary to Hawe Creek – includes surface water and sediment in the north tributary to Hawe Creek from its headwaters downstream to its confluence with Hawe Creek, including perennial and intermittent drainages feeding to the tributary.	<p>Several surface water and sediment samples from 2003, 2007, and 2011 including upstream reference sites.</p> <p>Seep data from 2008 through 2011.</p> <p>pH surveys in 2007, 2011, and 2012.</p>	<p>A few composited SW and SD samples planned for August 2013 + 6 SW/SD toxicity test samples, and stream habitat evaluation.</p> <p>HEC rainfall-runoff model to improve understanding of residence time of water in beaver pond; potential upgrade of beaver pond dam; potential storm flow diversion around pond.</p> <p>Potentially may need additional storm runoff data to determine water quality and potential for first flush events (depends on what was collected last month).</p>	<p>None.</p>
OU-4	Hawe Creek and the Southwest Hawe Creek Tributary – includes surface water and sediment in the southwest tributary to Hawe Creek from its headwaters downstream to its confluence with Hawe Creek, including perennial and intermittent drainages feeding to the tributary and surface water and sediment in Hawe Creek from the North tributary.	<p>Several surface water and sediment samples from 2003, 2007, and 2011 including upstream reference sites.</p>	<p>A few composited SW and SD samples planned for August 2013 + 6 SW/SD toxicity test samples, and stream habitat evaluation.</p> <p>Data TBD to make firmer connection between process ponds and SW exceedences.</p>	<p>None.</p> <p>Obtain results from SEDS storm water discharge measurements and Isco samples from late April event.</p>

	water and sediment in Howe Creek from the north through confluence downstream to its mouth		Potentially may need additional storm runoff data to determine water quality and potential for first flush events (depends on what was collected last month).	
OU-5	General Barite Hill Mine Site – includes all areas and media not within OU-1 through 4: the permanent leach pad and its associated process ponds, including the spent ore within it and the cap covering it; the reusable leach pad and its associated process ponds; the former processing facilities area including the refinery, laboratory, water treatment plant, carbon plant, crusher/agglomerator area, and maintenance and storage facilities; waste disposal area C including the spent ore within it, cap covering it, and leachate and surface water drainage systems; waste disposal area A including the waste rock within it, cap covering it, and surface water drainage systems; the former Rainsford pit and the backfill contained within it and cap covering it; Dam A; the former office area; and other site areas not described above	37 soil samples and 5 background soil samples from May 2011 and a few samples from 2007. 2003, 2007, and 2011 SW & SD samples from the process ponds.	Survey elevation of overflow points in process ponds; install pressure transducers to monitor water surface elevation to provide info on discharge to SW. Soil borings as described in the original work plan. HEC rainfall-runoff model so that eroding ephemeral runoff channels can be properly sized and stabilized.	None. Need to review Work Plans submitted for recycling/reprocessing activities if they occur.
General		Met station data.	LIDAR or similar post-mining topography.	